The Lighthouses of

Part I

By Wayne C. Wheeler

Columbus visited Puerto Rico during his second voyage to the New World (17 to 22 November, 1493) and dubbed it San Juan Bautista (although it was called Borinquin by the natives). In 1508 the Governor of Haiti rewarded the services of Juan Ponce de Leon, who had accompanied Columbus during his 2nd voyage, by permitting him to explore the island in search of gold.

In the 19th century Spain had a firm hold on Puerto Rico and developed the island as a plantation to grow for export: sugar, molasses, rum, coffee and to a lesser extent tobacco — goods that became known as "after dinner crops." The experiment was so successful that the crops for exporting began to encroach upon land used to grow crops in support of the local inhabitants; to the extent that certain food crops had to be imported, along with most manufactured goods. As the century progressed the island became more and more dependent on imported goods. The Spanish colonial authorities realized a need to link the island communities with roads and telegraphs, to improve the ports and to construct lighthouses to show the way to visiting vessels as well as those passing the island. Puerto Rico is at the crossroads between the Atlantic and Caribbean Sea and directly on the route that vessels would take to the long dreamed of Panama Canal.

The first order of business of the colonial authorities was to improve the ports; they were outdated, inadequate and poorly protected. One, Arecibo (on the north shore) was a major exporting port for sugar and tobacco. Between 1851 and 1858 approximately 15 ships grounded or sank as a direct result of a lack of aids to navigation (both day and night) at this port.

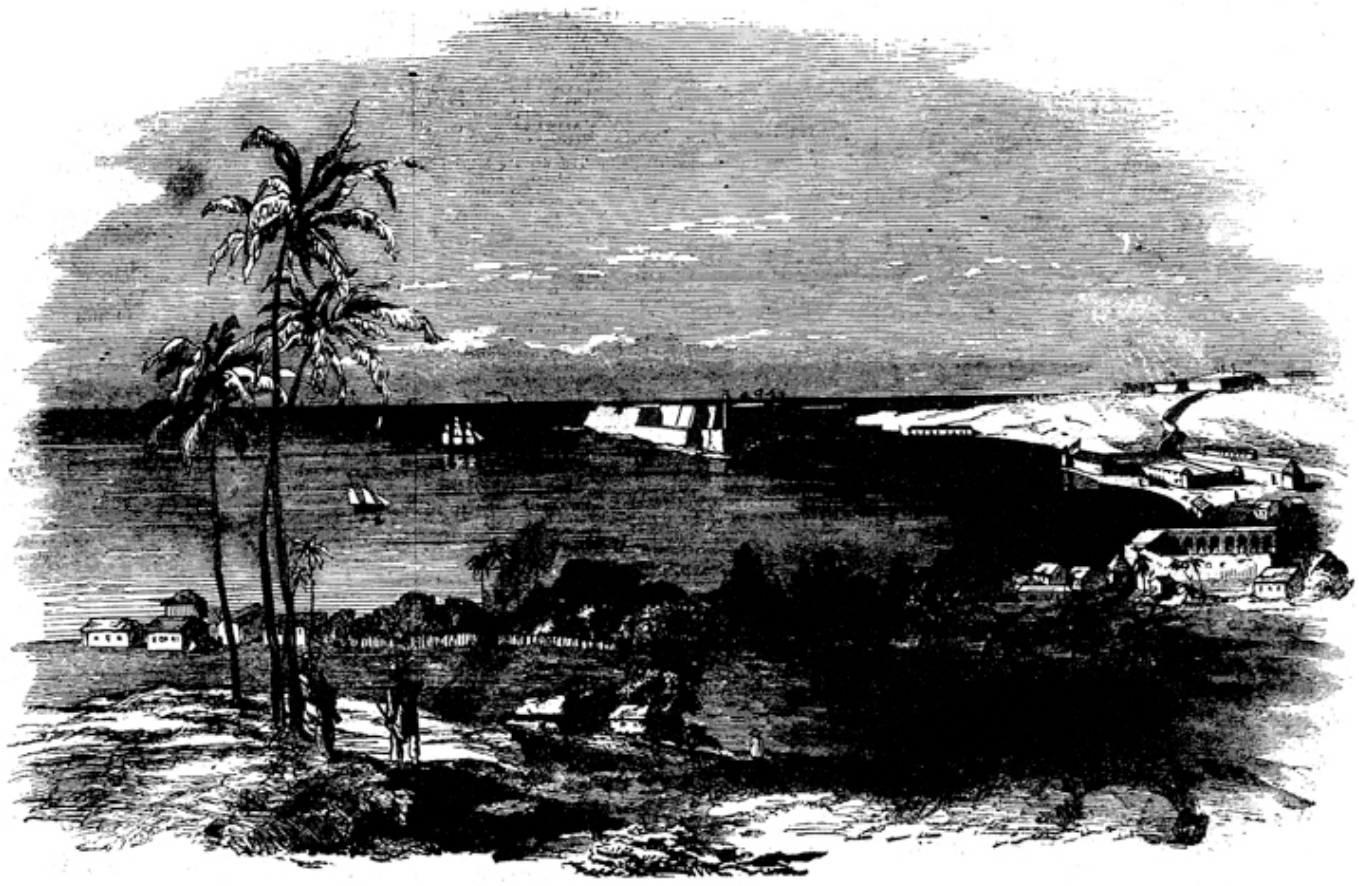
In 1861 the Central Lighthouse Commission was formed, studied the situation and developed a comprehensive lighthouse plan for the island. The commission was instructed to study the relationships between commerce and agriculture and consider such aspects as the geologic, atmospheric and natural environments when determining the location for each lighthouse and the types of stations to construct at each site selected. They were further instructed to consider the "economic and artistic point of view." Economic — regarding costs vs. benefits, costs of various materials (or perhaps to consider materials indigenous to a site) and Artistic — regarding structural and architectural unity. A string of lighthouses was proposed as far back as 1835 and although updated in the 1860's by the Committee, the master plan wasn't finalized until the 1880's.

Unlike many countries, including ours, the Central Lighthouse Commission wasn't dealing with modernizing or expanding a system to meet new demands of an expanding commerce. It was devising an entirely new system and, with the exception of the existing 1853 lighthouse at San Juan, it was starting from scratch. The San Juan station would be integrated into the new system. The committee did an outstanding job of strategically placing the stations around the island and mixing the orders (range) of the lights and the characteristics. The resultant system ringed the island with a necklace of lights so that the mariner would always have at least one and sometimes several within view. The mix of fixed lights coupled with flashing characteristics and occasional colored lights assisted the mariner in identifying which aid he was viewing. Any ship approaching the island from any direction would be greeted and guided by this sparkling chain of lights. A welcome sight, especially along remote, dark areas of the island.

The Central Committee also promulgated a set of regulations to instruct the keepers in their duties, regulations for maintaining the stations and instructions to oversee the service in Puerto Rico. A standard uniform for the keepers was also devised, although from the remarks made by the American inspector after we assumed control of the island, it is doubtful if the uniforms were worn or instructions obeyed as was initially and idealistically envisioned.

The Regulations for the keepers set forth 102 articles instructing the keepers in duties ranging from polishing the floor to maintenance of the lens apparatus. Inside the stations the keepers were to wear crude drill with white buttons and a white cap. Outside the station they were to wear a blue drill uniform with gold buttons, black shoes and a blue cap (a perfect outfit for the tropics!). A cap insignia of a band and two gold cords denoted a 1st class keeper, a band and one gold cord a second class keeper, etc.

The precise rules and regulations and the detailed symmetrical station construction reflected the Spanish obsession with systematic unity in organization and construction design. Although most of the stations were constructed on a basic design, there are variations to this "systematic" theme. The basic design called for brick, plaster and stone rectangular flat roofed structures divided into



two equal parts (for a two keeper station). Each apartment was private from the other and each contained a living room, kitchen-dining area, bedrooms, bathroom and storage areas. The common space (and means of communication) was an entrance hall which joined each residence's front door and lead to the tower. The flat roof construction enabled rainwater to be collected and piped to a cistern under the station.

The plan, approved by the first Lighthouse Commission in 1869, called for establishing 14 light stations around the island. However, due to the Cuban Ten Year War of Independence (1868-1878) no funds were provided until 1875 when the construction of four light stations was approved (Cape San Juan, Isla Caja de Muertos, Cabo Rojo and Punta Borinquin). Again, budgetary problems plagued the master plan between 1876 and 1885. Pressure from the Planter class, the Public Works Office and the Military caused Spain to agree to construct the seven most important stations: San Juan Harbor (reconstruction), Cabo San Juan, Isla Culebrita, Punta Borinquen, Cabo Rojo, Isla Caja de Muertos and Isla Cardona. Nine other sites were under consideration and in 1890 Isla de la Mona, Punta de la Tuna, Punta Higuero (or Jiguero), Isla de Desecheo, Mayaguez, Guanica, Arroyo, Arecibo, Punta Mulas and Puerto Ferro were added to the list. Mayaguez would eventually receive a set of range lights, and no lighthouse would be constructed on Isla de Desecheo or at Arroyo.

Most of the stations were in remote locations, reachable only by water. The construction of the Isla de Culebrita (Culebrita Island) station was typical of the difficulties experienced. The supply vessel had to anchor offshore (there was no protective cove) and the workers had to construct a wooden pier upon which to off-load supplies. Then with picks and shovels they constructed a road up to the lighthouse site, an elevation of 305 feet. After the road was constructed the workers hauled all the construction materials on their backs or by wheelbarrow. This backbreaking labor, especially in the humid tropics, caused almost half of the work force to quit. Eventually mules were brought in to ease the transportation of material. But one mule came very close to being the evening meal when the supply ship was delayed for weeks due to weather. Workers once struck, demanding shoes for their feet to protect them from the rough terrain and lime used in the construction of the station. One time the crew was lost for a day, recovering from the effects of consuming a demijohn of Jamaican rum they purchased from a passing ship.

The new stations were equipped with state of the art lighting apparatus. The lenses were purchased from the three main French manufacturers of Fresnel optics: L. Sautter & Lemonier, Henry-Lapaute, and Barbier et Fenestre. In fact the lanterns, lamps and some of the iron staircases, rails, balusters and decorative elements were also of French manufacture.

Left – An example of the fancy iron tower staircases imported from France. Library of Congress photo.

Below – The Culebrita Island station, circa 1913. The unique stone lighthouse was constructed in 1885 and is the furthest east of the Puerto Rican stations. Note the birdhouse at right. U.S. Coast Guard photo.

America Takes Over —

By winning our war with Spain, "fair and square," we were ceded, on December 10, 1898, the island of Puerto Rico, or Porto Rico as it was then spelled.

On May 1, 1899 the Puerto Rican Lighthouse Service was placed under the U.S. Lighthouse Board, and in May of 1900 the Secretary of Treasury ordered, ". . . the boundaries of the Third Lighthouse District be extended so as to include within it the island of Porto Rico and the adjacent islands and waters . . . which were ceded to the United States by the Government of Spain by treaty entered into on the 10th day of December, 1898."

With this acquisition came 13 fairly new light stations, one under construction and the parts for another, plus a slew of shabby minor aids to navigation (post lights and buoys). The Spanish American War had delayed the construction of the last two planned light stations in Puerto Rico and so badly damaged the "castle" lighthouse at San Juan that it had to be reconstructed.

Above – The San Juan lighthouse on the parapets of Fort San Juan. This structure was constructed in 1853 and was the only lighthouse in Puerto Rico until 1882. It was badly damaged by the American forces during the Spanish-American War and had to be rebuilt. USLHS photo.

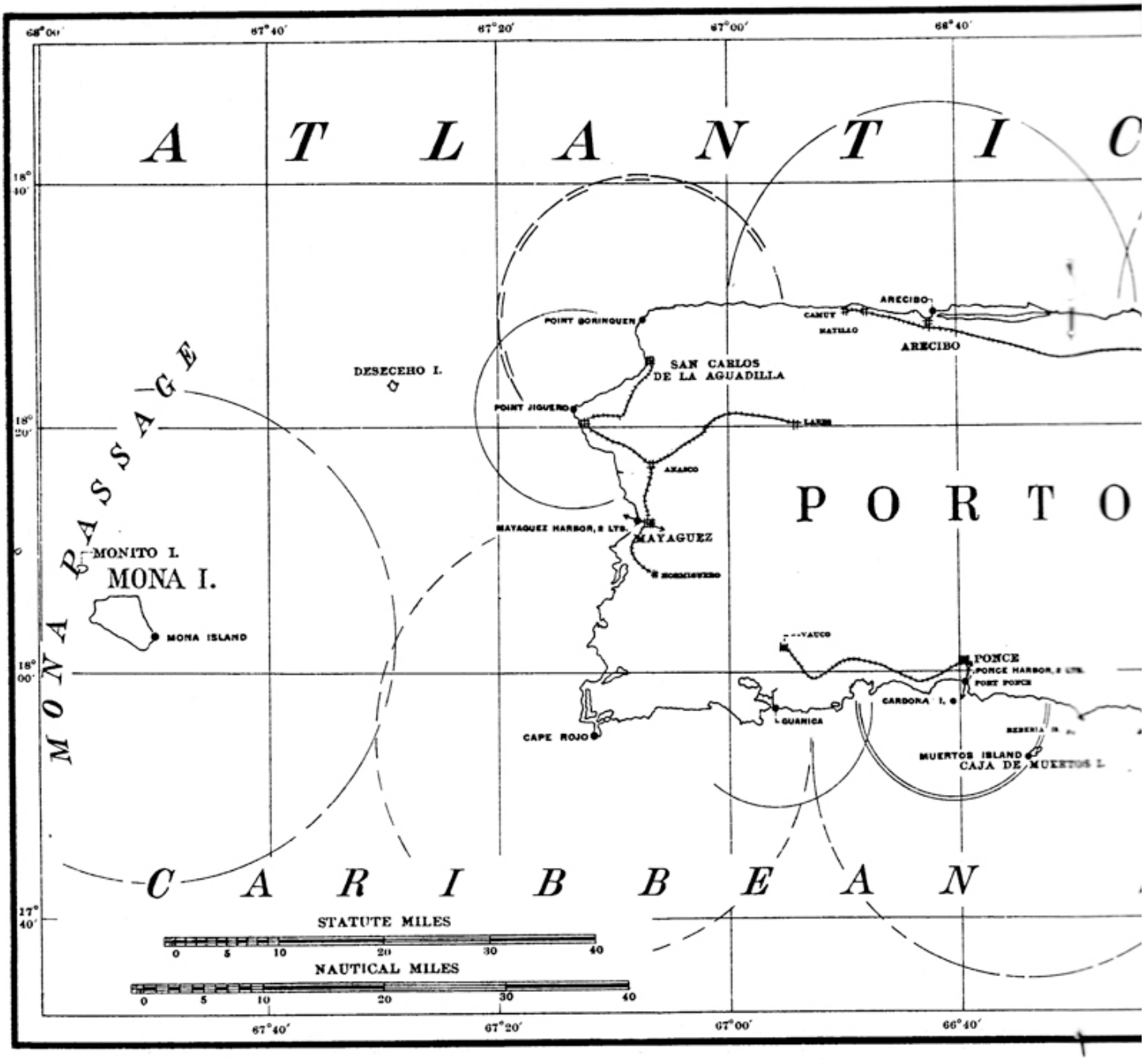
Top – The American reconstructed Fort San Juan tower looks more Spanish than the tower it replaced. This tower was completed in 1899. Photo by Keeper Griswold Boxley in 1990.

It's strange that this new possession became a subdistrict of the 3rd District (which encompassed the area from Rhode Island to Northern New Jersey) rather than the Seventh District (Florida) which is much closer to the island. Perhaps the reason was that the general Lighthouse Service Depot at Staten Island was located within the 3rd District and the service realized the newly acquired aids would require numerous supplies, refurbishing and "modern" equipment.

The first year Congress appropriated $50,000 to maintain the existing aids to navigation of Puerto Rico. In 1900, $60,000 was appropriated for maintenance and to complete the construction of the Mono Island station. A Navy Lieutenant was temporarily stationed at San Juan, as an assistant to the Inspector of the 3rd District, to oversee the amalgamation of the Puerto Rican Service into the U.S. Service. In typically niggardly Lighthouse Service fashion the young officer was provided an office in a small square room at the naval station. Two clerks and a messenger were placed under his orders. A buoy depot and small store room were temporarily provided by the Navy and the U.S. steam tug *Uncas* was assigned, when not otherwise employed by the Navy, to work buoys and deliver supplies for repairs to existing stations and construction of the new light station on Mona Island. CDR G.W. Metz, USN was permanently assigned to the post on November 8, 1901. For a short span he was assisted by a Captain of the Army Corps of Engineers. Both the officers had disbursing authority, by order of the President of the United States, "so that payments could be made on the spot." After July 1902 the District Engineer of the 3rd District (in New York City) was in charge of engineering duties for the new subdistrict.

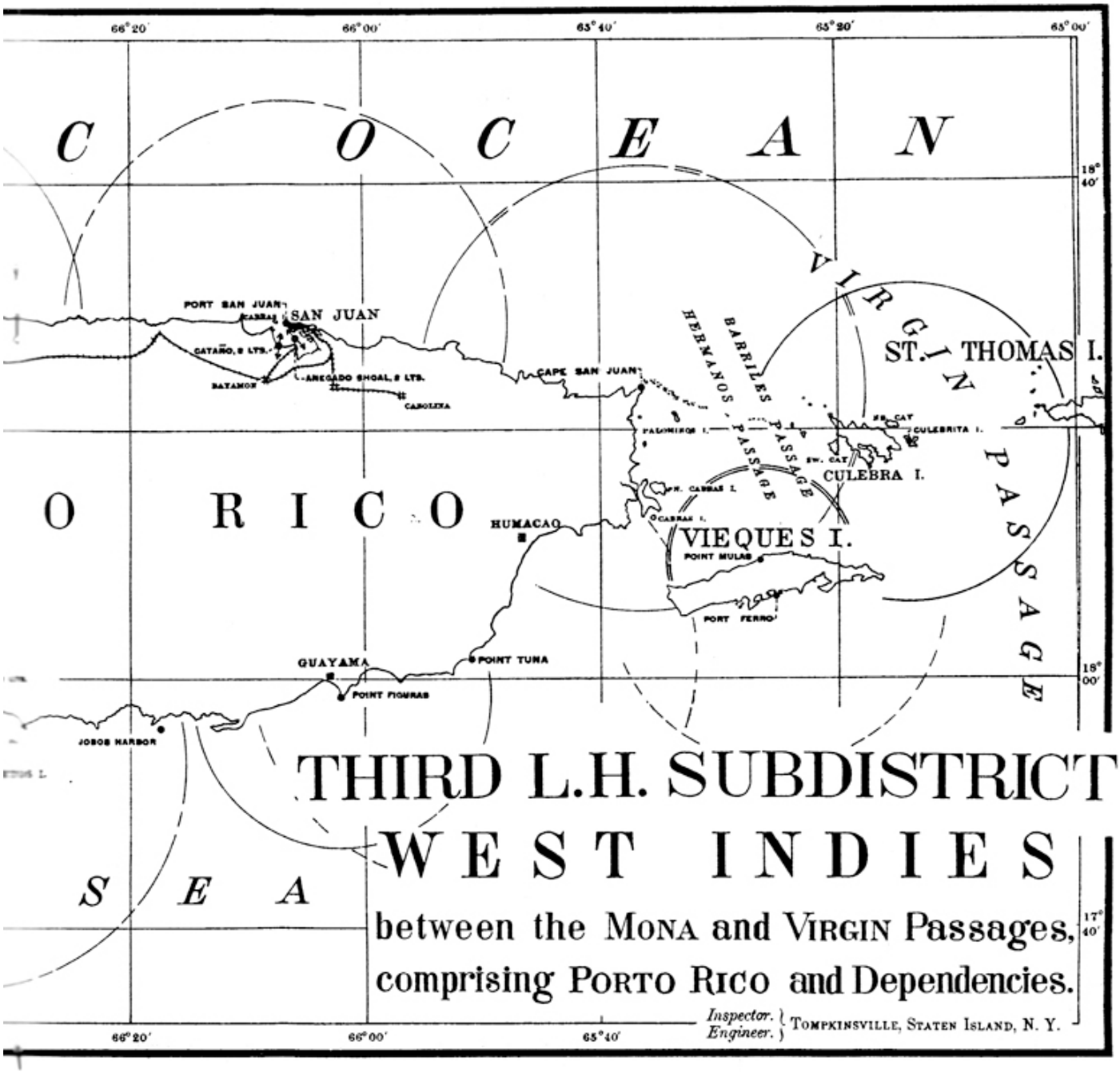
With the exception of one station constructed in 1875 (Morro, at San Juan) and two in the early 1880s, all the stations were less than ten-years-old when we acquired the island and reported in good to excellent condition.

However, during the first few years every Puerto Rican lighthouse received minor repairs to buildings and the illuminating apparatus was upgraded. The stations had incurred some damage from the recent war and from a hurricane. The Morro lighthouse was the most heavily damaged, having been rendered unserviceable by the American bombardment of San Juan.



The first station constructed by the American government in Puerto Rico was on Mona Island, which is situated halfway between Puerto Rico and Santo Domingo. Just prior to the war the Spanish government deposited a large quantity of material on a beach of Mona Island. The material, mostly prefabricated metal, was to be used for the construction of two large steel keepers' dwellings and a steel tower. [Nothing like living in a steel building in the tropics.] And, as can be imagined from the years of neglect, the steel was badly rusted. Additionally, several parts had "walked away" from the site. The Lighthouse Service agreed with the prior government that a lighthouse was needed on Mona Island and selected a site. The lack of a harbor caused several delays in landing personnel and materials. Once ashore, the work party had to transport the heavy metal parts a mile over a crude rocky road and up some 230 feet to the construction site.

The Annual Report noted, "Mona Island, which is uninhabited, is about 6½ miles long and 5 miles wide, and is without a harbor. The vessels coming here for phosphate and guano anchor in the open roadstead. When storms arise from the eastward, the vessels, it is said, drop both their anchors and veer out all



their chain cables. The crews then take to their boats and go ashore. In too many cases the vessels follow them. Within the last two years 11 such vessels were wrecked."

On April 30, 1900 the 60 foot tower was completed and lighted. The 2nd order lens displayed a fixed white light, varied by flashes every two minutes (231 feet above the water), and could be seen at 20 miles. However it would be three more months before the station would be completed. Unlike the flat one-story keepers' quarters of the other Puerto Rican stations, the Mona Island quarters sported a gabled roof and was attached to the tower by a small vestibule, rather than having the tower on the roof. The metal walls were lined in wood.

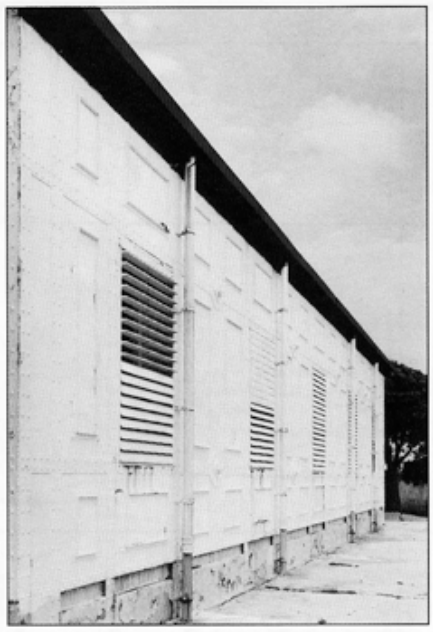
In the 1900 Report to Congress the Lighthouse Board reported that, with the completion of the Mona Island station, and the Puerto Ferro station the year before, there were a total of 15 lighthouses along the shores of the newly acquired territory. The Board reported about $27,000 had been expended to complete the two new stations and effect repairs on the other 12. It also stressed that a tender was required to service the stations, especially since 6 were located on outlying islands.

In 1901 the Lighthouse Board requested, and received, an appropriation of $75,000 to maintain the aids to navigation in Puerto Rican waters. The Board noted the buoy system was in deplorable condition and would need to be completely overhauled. To accomplish this, and maintain the lighthouses, $90,000 would be needed in the following year.

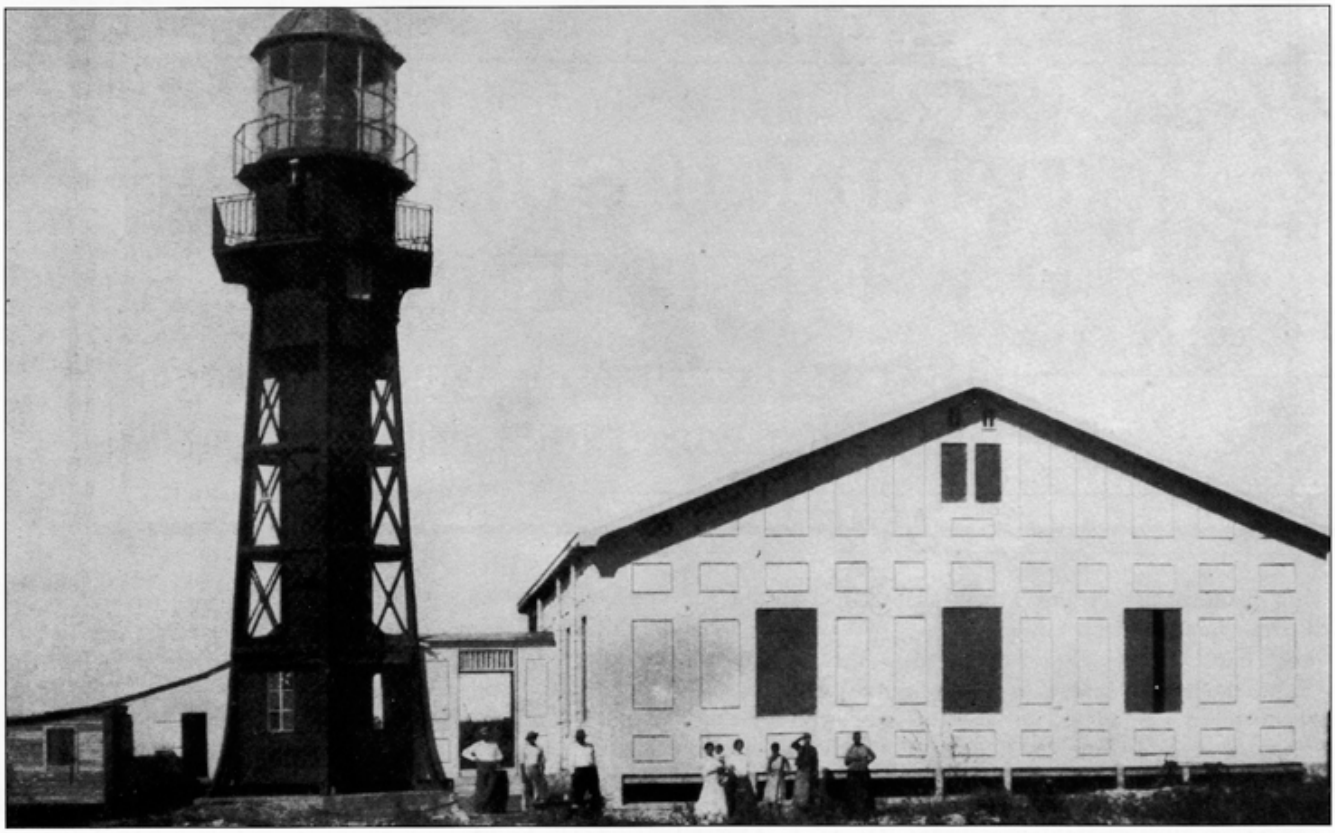
After the new stations had been constructed and repairs made to the damaged stations an assessment was made of the state of the system. The officer in charge reported on the status of each station and remarked, "There being no tender in Porto Rico waters, the schooner *Abbie C. Stubbs* was chartered from August 1, 1900, bringing office furniture, lamp shop machinery, and other supplies. A working party was organized at once, materials were purchased, and the schooner started on October 28, under the charge of the superintendent of construction, and made a round of all Porto Rican lighthouses, ending about January 27, 1901, at San Juan. The schooner was then discharged." He stated that the purpose of the trip was to effect minor repairs at the stations (leaking roofs, pointing masonry, plastering broken patches in walls, ceilings and floors). Extensive repairs were made at the boat landing at Culebrita and of the outhouses at Mona Island. The lamps and lamp machinery were overhauled."

In July 1901 the chief clerk of the Lighthouse Board made an inspection of all the stations of the new subdistrict aboard the lighthouse supply steamer *Armeria*.

At the end of 1901 Cdr. Metz reported that his subdistrict had, in addition to the 15 light stations, 3 bell buoys and 38 other buoys. Because the Navy tug wasn't always available several other vessels were pressed into service to provide logistics to the stations and effect necessary repairs.



Above – louvered windows and metal siding of the Mona Island station. Right – The wooden lined interior "common" room of the Mona Island station. Both photos courtesy of the Library of Congress.



The completed Mona Island lighthouse. Most of the cast iron parts of this station were found on the beach by the American forces after the Spanish-American War. Except for the reconstruction of the San Juan tower, this station and that on Cabras Island are the only light stations constructed by the American government. Library of Congress photo.

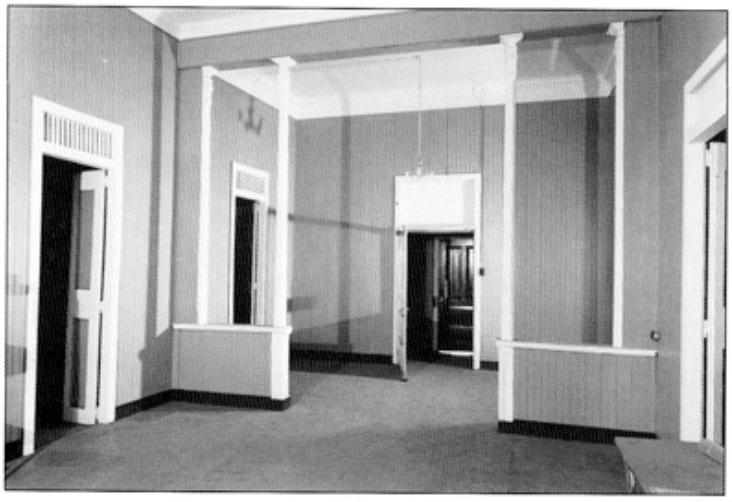
Mona Island, the newest station and one of the two constructed by the U.S. government, proved to be the most troublesome. Cdr. Metz reported, "The station is the most isolated and unattractive one in this subdistrict, its shores being surrounded by reefs through which it is impossible to enter safely except at certain seasons of the year. It is farther out to sea [50 miles] than any other lighthouse under the charge of the Light-House Service.

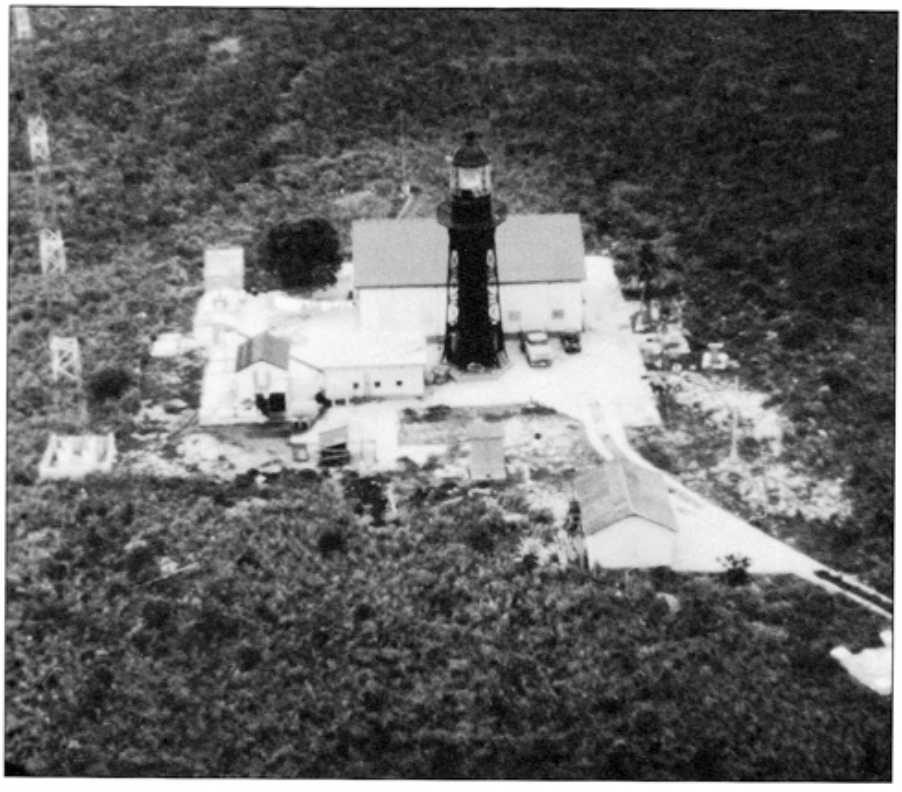
"There is only one landing and this is on the weather side of the island through an opening blasted in the reef, and which is just large enough for the passage of a boat; heavy breakers are constantly breaking at this point, and without a large steam tender it is impracticable to send a party on shore or to land supplies. Even the station boat, with a keeper in charge who understands the situation perfectly, runs great danger, and he is frequently obliged to stand off and on for days at a time before a favorable opportunity comes to get within the reef. He has several times been blown miles out of his course, once even nearly to Santo Domingo.

"The place is so unattractive to the keepers that it is difficult to get anyone to go there. None of the keepers are willing to reside there more than two years. It is impracticable to secure the services of a physician at this station in less time than four days, as Mayaguez, the nearest port, is forty miles distant and he has to make the trip there in a small sail boat. No one lives on the island except the light-house keepers and three or four peons — fishermen — and the soil is so poor and arid that little will grow except cactus and palm trees.

"No repairs were needed this year at this station, and if there had been it would have been impracticable to have made them with the facilities at the command of the Board."

A survey of the waters of the island indicated a need to upgrade existing nautical charts, a few buoys required relocation, and additional buoys were needed to mark newly discovered reefs. In an aside to strengthen his bid for a dedicated tender for Puerto Rico the inspector noted, "The buoys in Porto Rican waters require painting at least four times a year, as in less than six weeks from the time they are moored the birds have covered them with a white coat of guano."





The Mona Island station on desolate Mona Island, off the west coast of Puerto Rico. Library of Congress photo.

The Lighthouses of Puerto Rico

Part II

Above – The U.S. constructed San Juan Lighthouse tower. The Spanish tower was destroyed in the Spanish-American War. Gris Boxley photo.

By Wayne C. Wheeler

In the last issue of the Log we related the beginnings of the lighthouse system of Puerto Rico under Spanish rule. On May 1, 1899, six months after the island was ceded to the United States, Puerto Rican lighthouses were placed under the jurisdiction of the U.S. Lighthouse Service's Third District (headquartered in New York). The service found itself with 13 fairly new stations, one under construction and prefabricated parts for another. The service also inherited several shabby minor aids to navigation and keepers who did not measure up to its standards. The USLHS found that funds to properly upgrade and maintain the new acquisitions were difficult to come by and an adequate tender to service the far flung light stations and other aids to navigation was sorely needed.

After surveying Puerto Rico, the Service decided that sets of range lights were required at four of the island's harbors (Jobos, Ponce, Mayaguez and San Juan Harbors) and recommended a new lighthouse on Cabras Island, off the east coast.

Cdr. Metz wrote, "It was decided to establish this light, but it was found that the site selected could not be purchased from the only available appropriation, under a decision of the Comptroller of the Treasury." Thereupon the Treasury Department addressed a letter (February 11, 1902) to the Speaker of the House of Representatives stating that the Lighthouse Board had determined a need for a light station on Cabras Island, Porto Rico, and that "A site for the beacon can be purchased at a fair price, but it does not appear that the Board is yet authorized to purchase land for the sites of lighthouse beacons in Porto Rico."

The Board noted that while the Act appropriating funds stated they were "for maintaining existing aids to navigation and to established and maintain additional day marks, buoys and beacon lights where required in Porto Rico . . ." But the wording contained no such provision for the purchase of the land.

An Act on June 28, 1902 approved the following:

"Porto Rican light-house establishment: For maintaining existing aids to navigation and to establish and maintain additional day marks and beacon lights and buoys where required on Porto Rico and adjacent islands, *including the purchase of land for same* and the pay of officers and crews of light-house tenders, and of clerks and other employees in the office of the light-house inspector and light-house engineer and at the light-house depot, seventy-five thousand dollars."

But the most pressing need of this new territory, as far as the lighthouse service was concerned, was the need for a large dedicated seagoing tender to service the light stations and work the buoys. The assistant to the 3rd District Inspector wrote in February 1902, "Considering the distance between good harbors about the island and the constant trade winds that beat against the shores, making all the running on the high seas; the isolation of some of the stations and the difficulty of supplying them or communicating with them, it is seen that the services of a seagoing tender are needed at all times. . . . The buoyage system, when completed, will also require a tender to keep the buoys painted, as the birds will make all colors white in a short time."

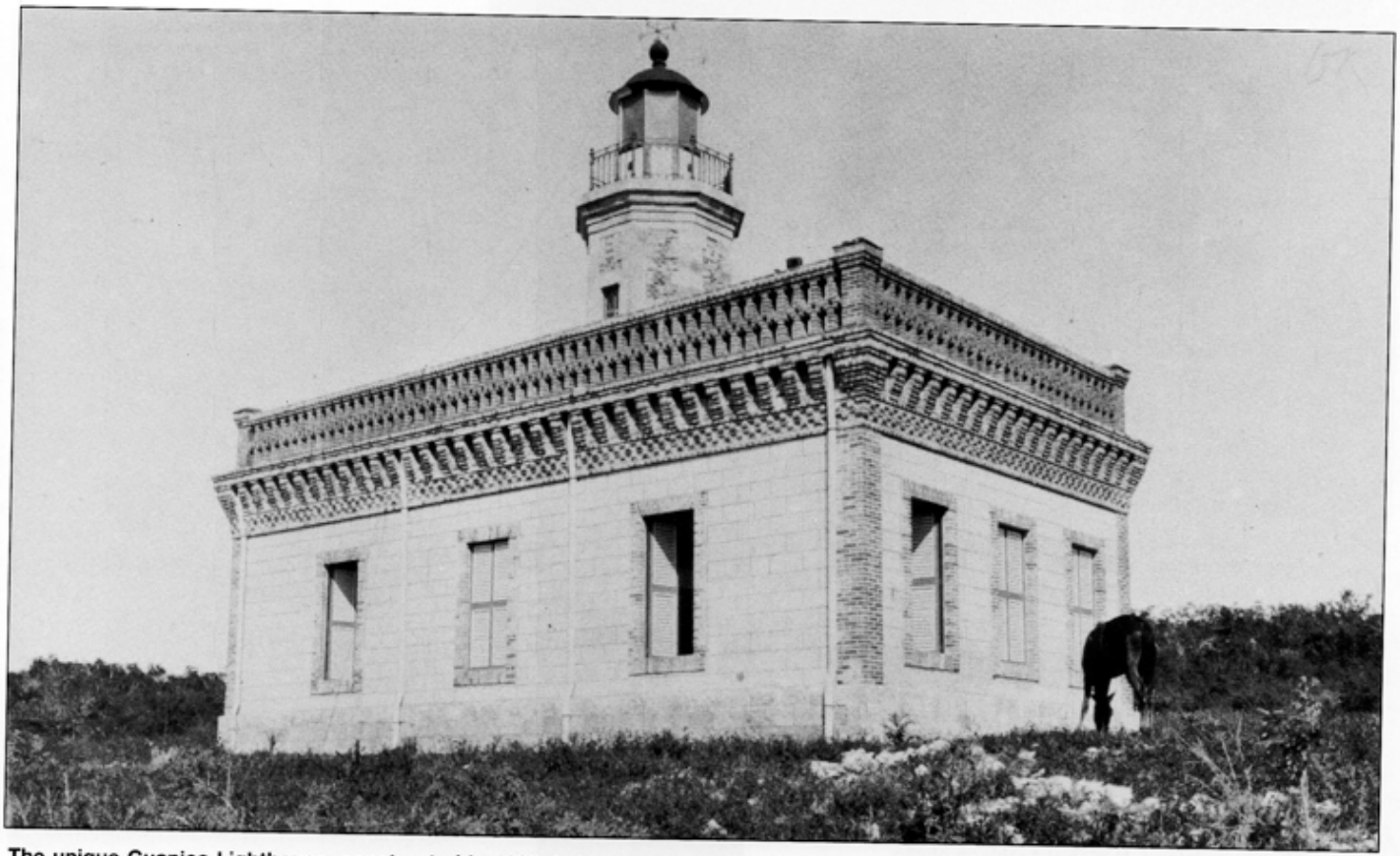
The Board wrote back asking if the tender *Laurel*, stationed in Key West, FL would be sufficient.

The inspector of the subdistrict responded, "Most of the stations are miles away from any good anchorage, and when buoys are placed off the eastern and western ends of the island they will be in exposed waters and may need the services of a tender at any time. To work in moderately rough weather and to reach the isolated stations when a landing can be made, and to make it quickly, if necessary . . . it is thought that only a seagoing tender of a strong modern type, capable of speeds of 12 knots, good beam, from 150 to 175 feet in length, with not more than 12 feet draft, twin screws for quick handling, accommodations and modern improvements adapted to this climate, will sufficiently meet the requirements of this subdistrict."

He stated that when the *Laurel* had been on loan from the 7th District during the period December 5, 1901 to April 1, 1902 the crew had been constantly employed, including Saturday afternoons, "which, when the vessel is in her own district, is employed by the crew in scrubbing and mending clothes, and [also worked] on Sundays." He remarked that the *Laurel* was too small, had a low freeboard and was under powered and that the work in Puerto Rican waters was beyond her capacity. In fact, heavy surf at the mouth of the San Juan harbor kept her at the dock for days at a time when she was otherwise ready for sea.

It had taken the *Laurel* (a vessel of 312 tons) 116 days to supply all the stations and work some buoys. The tender *Armeria* (at 1,500 tons) had accomplished the same work in about a week when she visited the subdistrict.

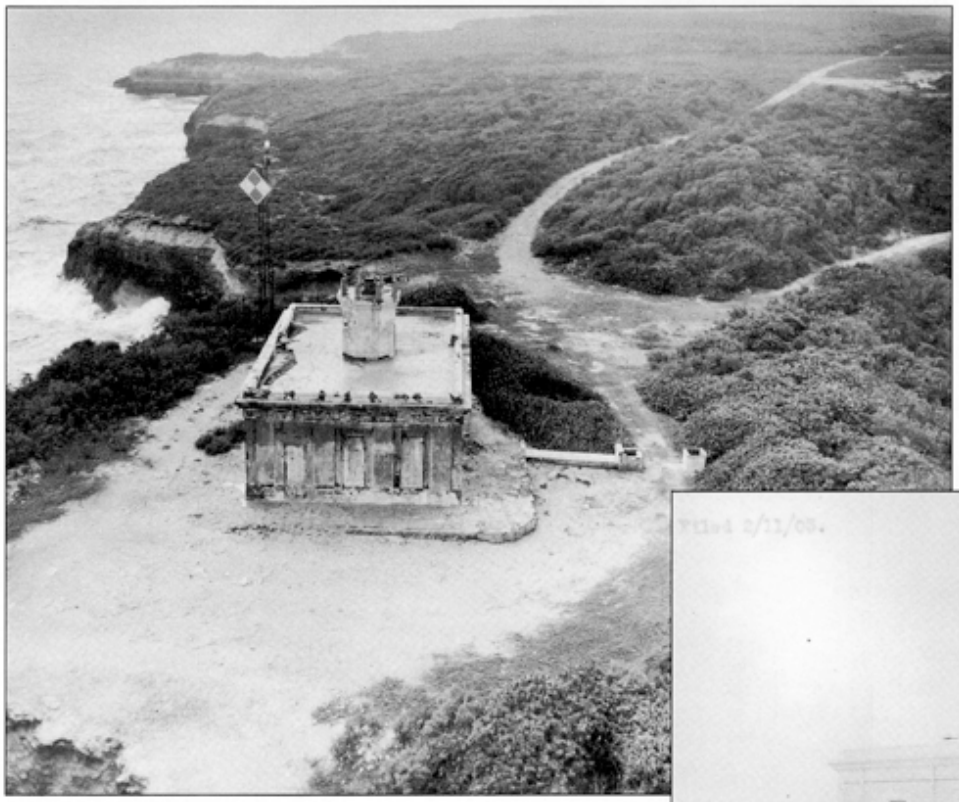
After the *Laurel* left, the inspector had employed a sloop rigged sailboat of 38 feet named the *Aquacote*, which had been transferred from the Army. The vessel was hauled, replanked, a freight hole constructed amidships and fitted with a small gypsy windlass. That October, on a logistics run to the Point Tuna station, her booms and gaffs were broken. In December, en route Culebrita Island station she was caught in a gale and lost her main mast and all canvas except one jib. It was ludicrous that the



The unique Guanica Lighthouse, constructed in 1893, is located on the south shore of Puerto Rico midway between Cape Rojo and the City of Ponce. National Archives photo.

Above – Arecibo Lighthouse, located on Puerto Rico's north shore, was the last station constructed by the Spanish, in 1898. National Archives photo.

Above left – The interior of Arecibo showing the work of the vandals. Photo by Gris Boxley.

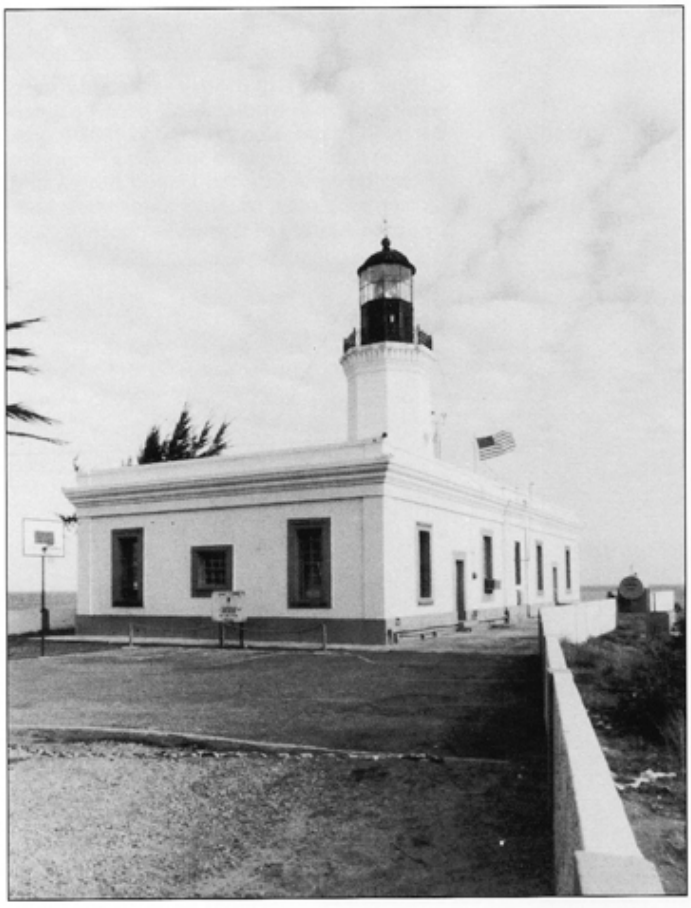


Above – Point Mulas Lighthouse as it appears today, heavily vandalized and abandoned. Note the modern optic on the nearby monopole. Library of Congress photo.

Right – Point Mulas circa 1905. This station is located on the north shore of Vieques Island about ten miles east of the Puerto Rico main island. National Archives photo.

Point Figuras (or Pt. Figuro) was constructed in 1893 on the south shore of Puerto Rico and is typical of most PR lighthouses with a duplex quarters surmounted by the tower. Circa 1955, U.S. Coast Guard photo.

Above – Cape Rojo lighthouse as it appears today. The windows have been blocked and due to its remote location it has not been heavily vandalized. Photo by District Inspector Gris Boxley.



Left – Point Tuna Lighthouse, constructed in 1893, was the last light station to be automated in Puerto Rico and is now used by Coast Guard personnel for rest and relaxation. U.S. Coast Guard photo.

subdistrict had to rely on a 38 foot sailboat to resupply the 15 light stations. The inspector next hired the schooner *Dichosa*, 100 tons burden, at $13.00 a day. She worked from March 6 until the end of April and only managed to supply five stations. In addition to being slow, the landings at all the stations were dangerous and difficult. The schooner was obliged to lie at a considerable distance from the shore. The accommodations on the vessel were poor, and the employees and workmen had to sleep on deck.

In May the schooner *India*, about the same tonnage as *Dichosa*, was hired at the same rate. Although touted as the best coasting schooner in Puerto Rico, she was almost as inconvenient as *Dichosa*. After loading supplies she provided logistics to five stations and was employed in the construction of range lights in three harbors. But the same difficulties were experienced with this vessel as with *Dichosa*. Much time was lost going from station to station.

Commander Metz apparently made his point and made it well for the 1902 report noted, "Efforts have been made to carry on the lighthouse service in Porto Rican waters with the aid of steamers borrowed from the Navy and from other lighthouse districts, but with poor success. It is now about 11 feet of water, of about 175 feet in length, with good beam, heavily engined, calculated to freight all of the light-house material needed from the mainland to the island and to distribute it to the light-houses on the 400 miles of Porto Rican coast, carrying to and fro inspection, supply and repair parties, with proper material and to carry, set, and care for the buoys required on the Porto Rican coast. The one steamer could do the work of maintenance, supply, and buoyage under the light-house inspector, and that of construction and repair under the light-house engineer. It is estimated that such a steamer can be built for not exceeding $130,000."

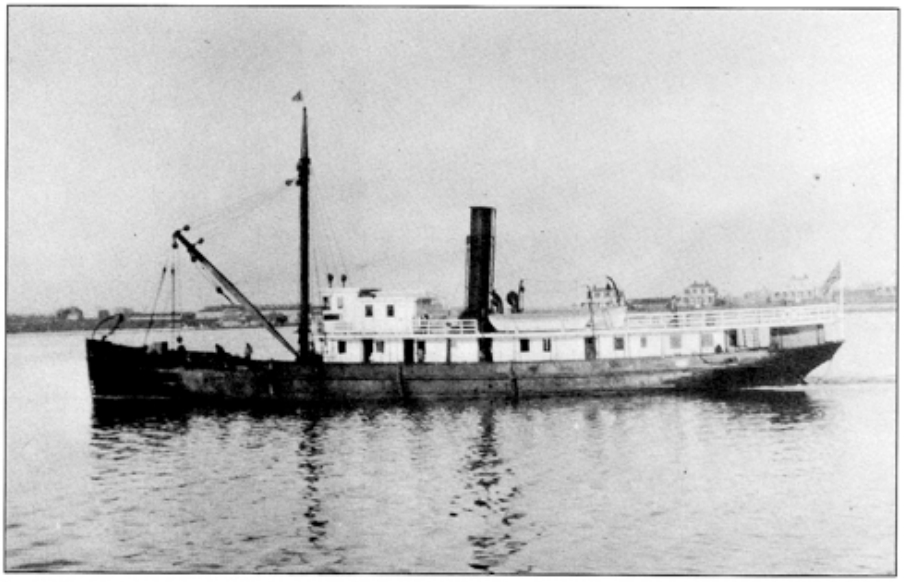
Having obtained the support of the home office Cdr. Metz went about making other necessary improvements for his subdistrict. He remarked that the present office in the naval depot was really only a temporary affair and inadequate for his needs. He estimated that a combination residence and office, off base, would cost $15,000 and requested that amount. He noted that land had been set aside for such a building. He also requested a dedicated buoy yard and storage building and stated that this could also be developed for $15,000.

Having completed his inspection of the stations he mentioned that, ". . . the service is not satisfactory, the keepers, with some exceptions, not having a high sense of duty such as is the standard in the United States, nor the intelligence nor mechanical skill necessary to make slight and immediate repairs to the apparatus. It is only by frequent inspections that the standard can be raised, and [here we go again] this can be done only by means of a tender."

As a means of providing esprit de corps Cdr. Metz had uniforms made for his new charges, "Caps, buttons, and collar ornaments were purchased in New York and all the keepers in this subdistrict now wear the standard uniform of the service, except that the caps and pantaloons are white." [And, they probably took them off as soon as the tender sailed over the horizon, if not before.]

Although the Lighthouse Board pressed for the appropriations requested by the inspector (tender, new station, residence and office and depot) funds were only authorized for maintenance and pay. The lack of a dedicated and adequate tender continued to plague the subdistrict. In May 1904 the tender *Pansy*, a steel screw steamer of only 348 tons and constructed in 1878, arrived for temporary duty. Between May and that October when she tied up for a yard period in St. Thomas, she steamed 8,479

Cabras Island Lighthouse is located on a small (one mile in diameter) island east of the main island. Constructed in 1908 it was the last lighthouse built in Puerto Rico, one of two designed by the United States and far more Spanish looking than those built by Spain. Library of Congress photo.



The tender *Pansy*, circa 1925, was one of the tenders assigned to work the waters of Puerto Rico and supply the light stations. U.S. Coast Guard photo.

nautical miles working buoys and resupplying the light stations.

By 1905 the subdistrict, now headed by Lcdr Albert Wood, was expanded to encompass the newly acquired naval facilities at Guantanamo Bay. A small buoy depot was eventually established in the bay. Another plea for a dedicated tender was made to Congress, but the price was now $150,000.

In 1908 the San Juan Depot was finally purchased. It occupied a plot of land 200 by 600 feet and consisted of an open buoy shed with two rooms that could be used for watchmen (although the roof leaked in several places), a temporary wharf in very poor condition with a tram track on it. Supplying the light station was still carried out by the woefully inadequate tender *Pansy*.

The Cabras station was finally completed in November of 1908, and described in the Annual report as, "A square two story gray stone structure with white trimmings, with a small cylindrical tower on the off shore corner supporting a black lantern." A 6th order lens displayed a fix white light visible for 14½ miles. This was the last lighthouse constructed in Puerto Rico. By the 1930's many had been automated and Point Tuna was one of the last five U.S. lighthouses to be automated. It now serves as a resort for Coast Guard personnel.

Station Name	Date Est.	Order Lens	Signal	Range of LT	Tower hgt.	Height above water	Tower Config.
Port San Juan rebuilt	1853 1899	3rd	W (vf) 1 min.	18	46	171	Gray Oct.
Cape San Juan	1880	3rd	FW (vrf) varied w/red flashes	18	39	260	W & Blk Cyl.
Cape Rojo	1882	3rd	FL W 60	18	40	121	Gray Hex.
Culebrita	1885	4th	FW	12	37	305	Gray Cyl.
Muertos I.	1885	3rd	FW (vf) 3 mins.	18	41	297	Gray Cyl.
Cardona I.	1889	6th	FR	7½	31	46	White Cyl.
Point Borinquen	1889	4th	FL R & W 30 sec.	12	46	65	Gray Cyl.
Point Jiguero	1892	6th	FW	8	32	69	Gray Cyl.
Point Tuna	1893	3rd	FL W (2)	18	43	110	White Oct.
Point Figuras	1893	5th	FW	12	36	47	White Oct.
Guanica	1893	6th	FW	8	32	117	White Oct.
Point Mulas	1896	6th	FR	7½	27	68	White Oct.
Arecibo	1898	3rd	FW	17	40	120	White Hex.
Port Ferro	1899	3rd	FL W 5	13½	38	68	White Oct.
Mona Island	1900	2nd	FW (vf)	20	52	231	Stl. Sklton
Cabras I.	1908	6th	FW	14½	55	78	Gray Square

F - Fixed
FL - Flashing
(vf) - Varied with flashes
W - White
R - Red
FL W - (2) Group Flashing White (two flashes)

On August 1, 1910 the Lighthouse Service was reorganized. The Board was disbanded and the Bureau of Lighthouses, under Commerce, took charge. The number of districts was expanded from 16 to 19. Alaska, Hawaii and Puerto Rico were now separate districts. Puerto Rico, as the Ninth District, had 30 lights (15 of them lighthouses) and 79 buoys, all unlighted. The District finally received the long sought after tender. The steel, steam powered tender *Ivy* arrived in 1910 having been the Engineers vessel for the old 7th and 8th (Gulf) Districts. But it wasn't a new vessel (constructed in 1904), nor necessary designed for the Puerto Rican waters. However, at 165 feet and 550 tons the vessel did approximate the original request.

Point Borinquen Lighthouse located on the northwest corner of Puerto Rico. Library of Congress photo.